



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,796	01/28/2002	Mitsuhiro Kodan	70904-56520	7040

21874 7590 04/25/2003

EDWARDS & ANGELL, LLP  
P.O. BOX 9169  
BOSTON, MA 02209

EXAMINER

LAVARIAS, ARNEL C

ART UNIT PAPER NUMBER

2872

DATE MAILED: 04/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/937,796

Applicant(s)

KODEN ET AL.

Examiner

Arnel C. Lavarias

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11/18/02, 1/13/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6, 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description:

✓ Figure 14 and all reference numerals associated with this figure.

A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

✓ Figures 8(a) and 8(b)- reference numeral 4 (See page 25, line 20)

✓ Figure 6- reference numeral 4 (See page 31, line 19)

✓ Figure 7- reference numeral 4 (See page 39, line 21)

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Specification*

3. The disclosure is objected to because of the following informalities:

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

✓ Page 4, line 15- insert 'in' after 'disclosed'

✓ Page 7, line 9- the full, unabbreviated word or phrase must be included the first time an abbreviation is used (i.e. 'R, G, and B')

✓ Page 28, line 3- 'contributors' should read 'contribute'

✓ Page 28, line 25- 'descried' should read 'described'

✓ Page 51, line 21- insert 'are' after 'art'

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. ✓ Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, lines 9-11, and Claim 2, lines 11-13 both recite the limitation "one of the first and second substrates having (source) electrodes for applying multiple signal electrodes".

It is unclear from the specification of the disclosure how an electrode applies multiple signal electrodes, since the specification recites similar limitations. The Examiner has interpreted this to mean "one of the first and second substrates having (source) electrodes

for applying multiple signal voltages". Claims 3-15 are dependent on Claims 1-2, and hence inherit the deficiencies of Claims 1-2.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-2, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Bonnet et al. (WO 87/07395).

Bonnet et al. discloses an optical control device, comprising a first substrate with at least one light output layer (See substrate below 4 in Figure 2); a second substrate with a light transmitting function (See Page 1, Paragraph 2)); and a liquid crystal sandwiched between the first and second substrates (See 3 in Figure 2), one of the first and second substrates having electrodes for applying multiple scan signals (See for example 2 in Figure 2), one of the first and second substrates having (source) electrodes for applying multiple signal voltages (See for example 1 in Figure 2), wherein the light output layer is arranged in stripes and extends in the same direction as the electrodes for applying scan signals (See 4 in Figure 2). Bonnet et al. additionally discloses one of the first and second substrates having multiple active elements (See page 2, paragraph 2-page 3, paragraph 1), and the light output layer shining for a duration of 10% of the frame time of the display (See page 6, paragraph 2-page 7, paragraph 1).

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 3-6, 9-10, 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bonnet et al. in view of Uehara et al. (U.S. Patent No. 4772885).

With regard to Claim 3, Bonnet et al. discloses the invention as set forth above.

Bonnet et al. additionally discloses the light output layer provided on the first substrate being formed by a light emitting layer composed of an electroluminescent source.

Bonnet et al. lacks the active elements being provided on the second substrate. However, Uehara et al. teaches a liquid crystal color display panel (See for example Figures 1-6, 11-15) wherein the transparent pixel electrode elements (See 21 in Figure 14 for example) are provided with an active device, such as a thin film transistor, to provide the appropriate voltage for switching the pixel element on and off (See col. 4, lines 17-40; col. 5, lines 15-27; col. 7, line 65-col. 8, line 20). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the active elements be provided on the second substrate, as taught by Uehara et al., in the optical control device of Bonnet et al. for the purpose of providing the required switching voltage directly onto the pixel electrode, thus enhancing the contrast of the display panel.

With regard to Claim 4, Bonnet et al. discloses the invention as set forth above.

Bonnet et al. additionally discloses the light output layer provided on the first substrate being formed by a light emitting layer composed of an electroluminescent source.

Bonnet et al. lacks the first substrate having a layer with a light polarizing function.

However, the use of a polarizer in liquid crystal displays are extremely well-known, particularly since displays based on liquid crystal are dependent on polarization.

Additionally, Uehara et al. teaches the use of such polarizers in liquid crystal color display panels (See for example 33, 31 in Figures 1-6, 11-15) wherein the polarizer is a layer on the first substrate (See for example 33 in Figure 14). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the first substrate have a layer with a light polarizing function, as taught by Uehara et al., in the optical control device of Bonnet et al. for the purpose of enhancing the contrast of the display panel.

With regard to Claims 5-6, Bonnet et al. discloses the invention as set forth above, except for a first electrode film, the light emitting layer, and a second electrode film being provided in this order on the first substrate, such that the emitting layer shines with application of a voltage across the first and second electrode films. However, Uehara et al. also teaches the use of electroluminescent light sources in liquid crystal color display panels (See for example 43, 143 in Figures 1-6, 11-15) wherein a first electrode film (See 45 in Figure 1), the light emitting layer (See 43 in Figure 1), and a second electrode film (See 47 in Figure 1) are provided in this order on the first substrate, such that the emitting layer shines with application of a voltage across the first and second electrode films.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a first electrode film, the light emitting layer, and a second electrode film be provided in this order on the first substrate, such that the emitting layer shines with application of a voltage across the first and second electrode films, as taught by Uehara et al., in the optical control device of Bonnet et al. for the purpose of enhancing the emission of light from the electroluminescent layer since the full potential voltage is applied directly across the electroluminescent layer that is between the two electrode layers.

With regard to Claims 9-10, 14-15, Bonnet et al. discloses the invention as set forth above, except for the light output layer shining with spectrum periodically varying according to a position of the light output layer, such as for each pixel. However, Uehara et al. teaches the use of a multiple color electroluminescent layer as the light output layer for a liquid crystal color display panel (See for example 43, 143 in Figures 1-6, 11-15), wherein red, blue, and green emitting electroluminescent layers (See for example Figures 7-10) are arranged in a mosaic pattern (See 43a, 43b, 43c in Figure 1; col. 3, line 46-col. 4, line 40; each pixel in the mosaic may be regarded as an individual layer). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the light output layer shine with spectrum periodically varying according to a position of the light output layer, such as for each pixel, as taught by Uehara et al., in the optical control device of Bonnet et al. for the purpose of providing a bright and clear image with good color balance, thus enhancing the generated color image.



Art Unit: 2872

10. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bonnet et al. in view of Uehara et al. as applied to Claims 1-4 above, and further in view of Kimura et al. (U.S. Patent No. 5535027).

Bonnet et al. in view of Uehara et al. discloses the invention as set forth above in Claims 1-4, except for the light output layer provided on the first substrate being formed by a combination of an optical waveguide and a light source coupled to the optical waveguide and positioned in a non-display section area. However, Kimura et al. similarly teaches a liquid crystal display device (See for example Figures 1-7) wherein the light output layer is formed by a combination of an optical waveguide (See for example 22 in Figures 3-4) and a light source (See for example 21 in Figures 3-4) coupled to the optical waveguide and positioned in a non-display section area (See left side of Figure 4 where 21 is located at). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have for the light output layer provided on the first substrate be formed by a combination of an optical waveguide and a light source coupled to the optical waveguide and positioned in a non-display section area, as taught by Kimura et al., in the optical control device of Bonnet et al. in view of Uehara et al. for the purpose of reducing the amount of power consumed by the device since light is no longer wasted in illuminating portions of the display panels that are not required to be illuminated (i.e. light is guided only to those areas of the panel that requires illumination).

11. Claims 12-13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bonnet et al.

With regard to Claim 12, Bonnet et al. discloses the invention as set forth above in Claims 1-2, except for the light output layer shining for a duration of 15% to 40% of each display frame time. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the light output layer shine for a duration of 15% to 40% of each display frame time, since the claimed ranges and the prior art ranges are close enough that one skilled in the art would have expected them to have the same properties and further being motivated to enhance the contrast of the display panel output. *Titanium Metals Corp. of America v. Banner*, 778 f.2d 775, 227, USPQ 773 (Fed. Cir. 1985).

With regard to Claim 13, Bonnet et al. discloses the invention as set forth above in Claims 1-2. Bonnet et al. additionally discloses shining the light output layer during addressing the scan lines, and extinguishing the light output layer prior to addressing the succeeding scan lines (See Page 5, last paragraph-page 6, paragraph 1). Bonnet et al. lacks the light output layer shining when a specified time has elapsed after a set of scan signals are transmitted to scan lines and extinguished before a succeeding set of scan signals are transmitted. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the light output layer shine when a specified time has elapsed after a set of scan signals are transmitted to scan lines and extinguished before a succeeding set of scan signals are transmitted. One would have been motivated to do this to reduce the power consumption of the scan line addressing, as well as increase the frequency of the scan line addressing.


Art Unit: 2872

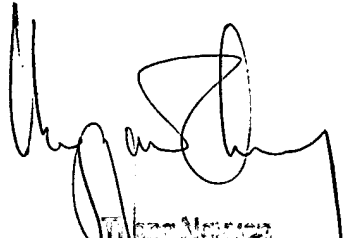
*Conclusion*

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnel C. Lavarias whose telephone number is 703-305-4007. The examiner can normally be reached on M-F 8:30 AM - 5 PM EST.

The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.

  
Arnel C. Lavarias  
April 21, 2003

  
Arnel C. Lavarias  
Examiner